

# SPR-CB Series

## All Silicon Bi-Directional Transient Voltage Suppressor



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### Features:

- ▶ Rugged epoxy-filled molded case with Printed Circuit Board through-hole leads.
- ▶ Hermetically sealed package for all manufacturing environments and the most severe application environments.
- ▶ Automatically resets after each transient. No maintenance is required.
- ▶ Low insertion loss allows use in high speed digital communication applications.
- ▶ Three leaded device balanced electrically for 2 data/signal lines and ground.
- ▶ All silicon shunt style provides unlimited current applications.
- ▶ Less than one nanosecond response time and the effective predictable clamping of silicon.
- ▶ This series is bipolar and may be used in DC or AC applications.
- ▶ Low profile package and lead length allows for printed circuit mounting or hard wiring to solder terminals, allowing simple integration into new and existing design.
- ▶ Product family offers operating voltages from +/-5 Volts to +/-185 Volts.

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### Applications:

The SPR-CB Series is designed for shunt (unlimited current) applications. Typical installations include measure and control instrumentation, PABX, communication equipment, CATV distribution systems, telecom equipment, computer systems, etc.

Select the 15KP Series for a more severe transient environment, or the SPR-TM Series for primary level protection.

Select the model number according to the operating voltage selection table found on the back of this data sheet.

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### Typical Installation:

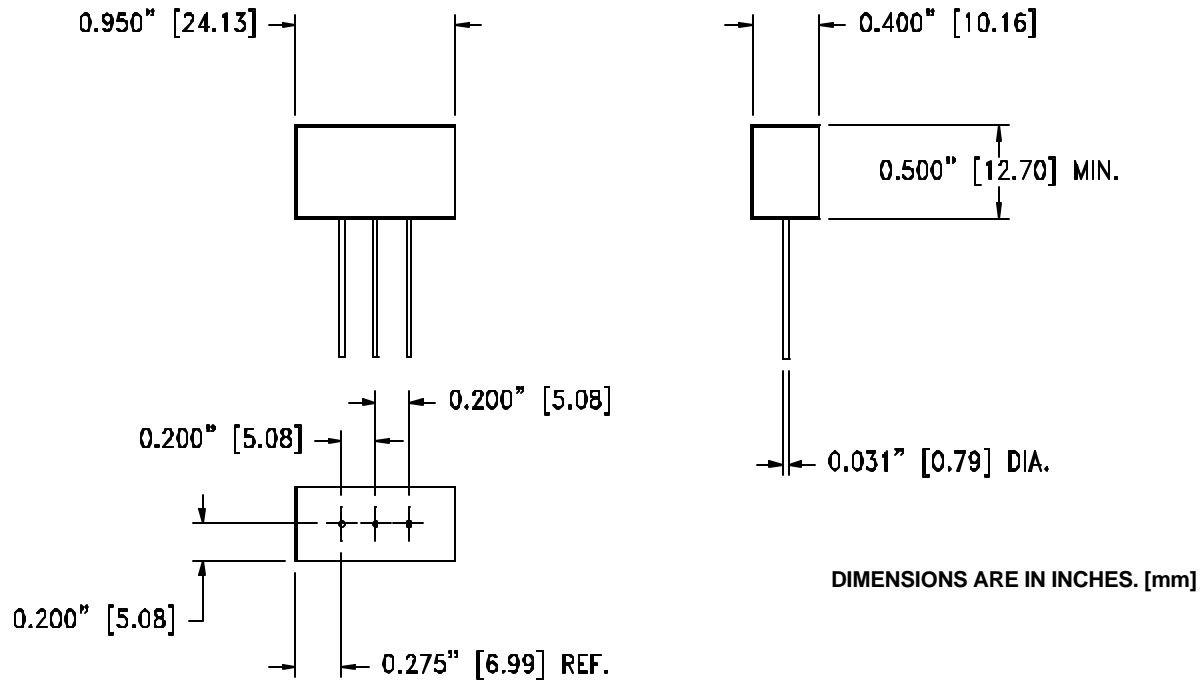
Observe normal care relative to solid state components in soldering the SPR-CB Series into a PCB. For long duration transients, large PCB land surface should be provided to remove heat via the device leads. The center terminal is "ground", either data lead may be connected to any data/signal line.

## SPR-CB Series Operating Specifications:

Specifications	SPR-CB5	SPR-CB12	SPR-CB24	SPR-CB36	SPR-CBT
Operating Voltage ( $V_{op}$ ) (Pos/Neg DC or AC)	5 Volts	12 Volts	24 Volts	36 Volts	185 Volts
Min Breakdown Voltage Line to Gnd	7 Volts	14 Volts	26 Volts	40 Volts	200 Volts
Min Breakdown Voltage Line to Line	14 Volts	27 Volts	26 Volts	40 Volts	200 Volts
Max Peak Pulse Current ( $I_p$ )	46 Amps	24 Amps	24 Amp	16 Amps	3.2 Amps
Max Clamping Voltage @ $I_p$ Line to Gnd	12.2 Volts	22.5 Volts	43.5 Volts	65.3 Volts	324 Volts
Max Clamping Voltage @ $I_p$ Line to Line	23.5 Volts	44 Volts	44 Volts	66 Volts	324 Volts
Max Reverse Leakage @ $V_{op}$	1 $\mu$ A				
Typical Capacitance @ $V_{op}$	7.5 pF	7.3 pF	13.5 pF	13.0 pF	6.0 pF

These parts can be easily customized for applications requiring other operating voltages, breakdown/clamping voltages, or case sizes. The SPR-CBT is designed for standard voltage telephone lines. All Specifications at 25 degrees Celsius. Consult the factory for other operating specifications or conditions.

## Outline Dimensions:



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